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मानक

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IS 11967-3-4 (1989): Radio Frequency Coaxial Cables, Part 3: Solid Extruded/Tape Wrapped PTFE, Section 4: Flexible Type R 75-2-F 04 [LITD 6: Wires, Cables, Waveguides and Accessories]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

RADIO FREQUENCY COAXIAL CABLES — SPECIFICATION

PART 3 SOLID EXTRUDED/TAPE WRAPPED PTFE

Section 4 Flexible Type R 75-2-F 04

भारतीय मानक

रेडियो आवृत्ति दोघ्नक्षीय केबलों — विशिष्ट

भाग 3 ठोस बहिर्वेधित/टेप चढ़े पीटीएफई

अनुभाग 4 नम्य किस्म आर 75-2-एफ 04

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BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

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Price Group 1

FOREWORD

This Indian Standard (Part 3/Sec 4) was adopted by the Bureau of Indian Standards on 23 January 1989, after the draft finalized by the Wires and Cables for Electronic Equipment Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard covers solid extruded/tape wrapped PTFE radio frequency cables with characteristic impedance 75 ohms and Type R75-2-F 04.

IS 5026 : 1987 'General requirements and tests for radio frequency cables (*first revision*)' is a necessary adjunct to this standard.

The cables covered under this standard are useful for general purpose high temperature applications.

The connectors for these cables should be chosen from series SMB and SMC.

This standard is based on MIL-C-17/94E Military Specification Sheet — Cables, Radio Frequency, Flexible, Coaxial, 75 ohms, M17/094-RG179, issued by Department of Defence, USA.

Indian Standard

RADIO FREQUENCY COAXIAL CABLES — SPECIFICATION

PART 3 SOLID EXTRUDED/TAPE WRAPPED PTFE

Section 4 Flexible Type R 75-2-F 04

1 SCOPE

1.1 This standard (Part 3/Sec 4) specifies dimensions, constructional details and the requirements of solid extruded/tape wrapped PTFE radio frequency coaxial cables, flexible type R75-2-F 04.

2 OUTLINE DRAWING — See Fig. 1.

3 CONSTRUCTION — See Table 1.

4 REQUIREMENTS

4.1 Dimensions, Configuration and Description — See Fig. 1 and Table 1.

4.2 Environmental and Mechanical

<i>Tests</i>	<i>Requirements</i>	<i>Clause Reference to IS 5026 : 1987</i>
a) Visual and mechanical examination:		
i) Eccentricity	10 percent, Maximum	6.4.3
ii) Adhesion of conductors		
Inner conductor to core	6.7 N, Minimum; 18 N, Maximum	6.4.4
b) Stress-crack resistance	$230 \pm 5^\circ\text{C}$	6.20,
c) Dimensional stability	$200 \pm 5^\circ\text{C}$	6.25
i) Inner conductor from core	8.0 mm, Maximum	
ii) Inner conductor from jacket	8.0 mm, Maximum	
d) Flammability*		6.28

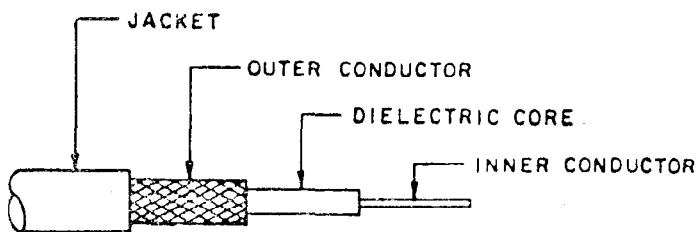


FIG. 1 CONFIGURATION

Table 1 Description

SI No. (1)	Components (2)	Construction Details (3)
	i) Inner conductor	Seven strands of silver-coated, annealed-copper-covered, steel wire each strand 0.1 mm diameter Overall diameter: 0.30 ± 0.02 mm
	ii) Dielectric core	Type F-1 or F-2: Solid extruded/tape wrapped PTFE
	iii) Outer conductor	Diameter: 1.60 ± 0.08 mm Single braid of 0.1 mm, silver-coated copper wire Diameter ≤ 2.13 mm, Maximum Coverage 90%, Minimum Carriers 16 Ends 5 Picks/cm $4.7 \pm 10\%$
	iv) Jacket	Type IX FEP Diameter 2.54 ± 0.13 mm

*When specially required.

4.3 Electrical

Tests	Requirements	Clause Reference to IS 5026 : 1987
a) Spark test	2 000 Vrms, Minimum	6.6
b) Voltage withstanding	2 000 Vrms, Minimum	6.7
c) Corona extinction voltage	1 200 Vrms, Minimum	6.9
d) Characteristic impedance	75 ± 3 ohms	6.10
e) Attenuation	68.9 db/100 m, Maximum at 0.4 GHz	6.11
f) Capacitance	64 pF/m, Nominal	6.13

5 ENGINEERING INFORMATION

- a) Continuous working voltage : 900 Vrms, Maximum
- b) Operating frequency : 3 GHz, Maximum
- c) Velocity of propagation : 69.5 percent, Nominal
- d) Power rating : *See Fig. 2*
- e) Operating temperature range : -55 to $+200^{\circ}\text{C}$
- f) Inner conductor properties:
 - i) DC resistance (Maximum at 20°C) : 8 020 ohms/km
 - ii) Elongation : 10 percent, Minimum
 - iii) Tensile strength : 345 MN/m², Minimum
- g) Mass* : 16 g/m, Maximum

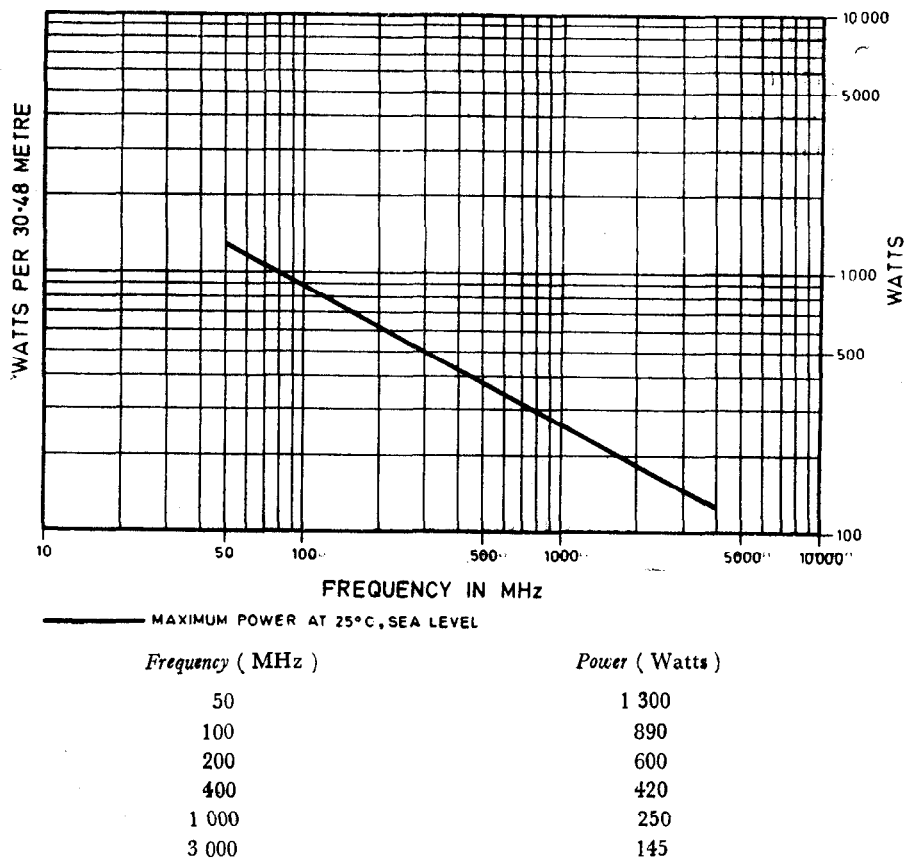


FIG. 2 POWER RATING

*When specially required.

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